Building your own images

```
###############################################################
#                        WARNING!!!!                          #
# This is a sandbox environment. Using personal credentials   #
# is HIGHLY! discouraged. Any consequences of doing so are    #
# completely the user's responsibilites.                      #
#                                                             #
# The PWD team.                                               #
###############################################################
[node3] (local) root@192.168.0.6 ~
$ docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
61e03ba1d414: Pull complete
4afb39f216bd: Pull complete
e489abdc9f90: Pull complete
999fff7bcc24: Pull complete
Digest: sha256:6aab78d1825b4c15c159fecc62b8eef4fdf0c693a15aace3a605ad44e5e2df0c
Status: Downloaded newer image for ubuntu:16.04
docker.io/library/ubuntu:16.04
[node3] (local) root@192.168.0.6 ~
$ docker images
REPOSITORY      TAG         IMAGE ID       CREATED      SIZE
ubuntu          16.04       065cf14a189c   4 days ago   135MB
[node3] (local) root@192.168.0.6 ~
$ touch Dockerfile
[node3] (local) root@192.168.0.6 ~
$ ls
Dockerfile
[node3] (local) root@192.168.0.6 ~
$ nano Dockerfile
bash: nano: command not found
[node3] (local) root@192.168.0.6 ~
$ vi Dockerfile
```

```
 1 FROM ubuntu:16.04
 2 LABEL author="MJ Santos"
 3
 4 RUN apt-get update
 5
 6 RUN apt-get install -y iputils-ping
```

```
[node3] (local) root@192.168.0.6 ~
$ docker build -t 'itachity/ping' .
Sending build context to Docker daemon     47MB
Step 1/4 : FROM ubuntu:16.04
 ---> 065cf14a189c
Step 2/4 : LABEL author="MJ Santos"
 ---> Running in eed24fb0d2fc
Removing intermediate container eed24fb0d2fc
 ---> 7a38e4a3eeb6
Step 3/4 : RUN apt-get update
 ---> Running in 883f5807b4b2
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:4 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:5 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:6 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:11 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.4 MB in 2s (7458 kB/s)
Reading package lists...
Removing intermediate container 883f5807b4b2
 ---> eb7b2b769683
```

```
Step 4/4 : RUN apt-get install -y iputils-ping
 ---> Running in 6dc7654ad629
Reading package lists...
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11
  libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4
  libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2
[93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2
 [136 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 k
B]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5~ubuntu16.04
.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3
[43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8 [5
48 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl27 amd64 3.4.10-4ubun
tu1.8 [21.9 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7
kB]
debconf: delaying package configuration, since apt-utils is not installed
```

```
Fetched 1307 kB in 0s (1770 kB/s)
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4785 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Selecting previously unselected package libnettle6:amd64.
Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libhogweed4:amd64.
Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libidn11:amd64.
Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...
Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...
Selecting previously unselected package libffi6:amd64.
Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...
Unpacking libffi6:amd64 (3.2.1-4) ...
Selecting previously unselected package libp11-kit0:amd64.
Preparing to unpack .../libp11-kit0_0.23.2-5~ubuntu16.04.2_amd64.deb ...
Unpacking libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...
Selecting previously unselected package libtasn1-6:amd64.
Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...
Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Selecting previously unselected package libgnutls30:amd64.
Preparing to unpack .../libgnutls30_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package libgnutls-openssl27:amd64.
Preparing to unpack .../libgnutls-openssl27_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20121221-5ubuntu2_amd64.deb ...
Unpacking iputils-ping (3:20121221-5ubuntu2) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...
Setting up libffi6:amd64 (3.2.1-4) ...
Setting up libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...
Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Setting up libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...
Setting up iputils-ping (3:20121221-5ubuntu2) ...
Setcap is not installed, falling back to setuid
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Removing intermediate container 6dc7654ad629
 ---> 090dae1d02a6
Successfully built 090dae1d02a6
Successfully tagged itachity/ping:latest
```

```
[node3] (local) root@192.168.0.6 ~
$ docker build -t 'itachity/ping' .
Sending build context to Docker daemon     47MB
Step 1/4 : FROM ubuntu:16.04
 ---> 065cf14a189c
Step 2/4 : LABEL author="MJ Santos"
 ---> Using cache
 ---> 7a38e4a3eeb6
Step 3/4 : RUN apt-get update
 ---> Using cache
 ---> eb7b2b769683
Step 4/4 : RUN apt-get install -y iputils-ping
 ---> Using cache
 ---> 090dae1d02a6
Successfully built 090dae1d02a6
Successfully tagged itachity/ping:latest
[node3] (local) root@192.168.0.6 ~
$ docker images
REPOSITORY       TAG       IMAGE ID       CREATED            SIZE
itachity/ping    latest    090dae1d02a6   About a minute ago  170MB
ubuntu           16.04     065cf14a189c   4 days ago          135MB
```

```
 1 FROM ubuntu:16.04
 2 LABEL author="MJ Santos"
 3
 4 RUN apt-get update
 5
 6 RUN apt-get install -y iputils-ping
 7
 8 RUN apt-get clean \
 9    && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
10    && truncate -s 0 /var/log/*log
```

```
[node3] (local) root@192.168.0.6 ~
$ vi Dockerfile
[node3] (local) root@192.168.0.6 ~
$ docker build -t 'itachity/ping' .
Sending build context to Docker daemon    47MB
Step 1/5 : FROM ubuntu:16.04
 ---> 065cf14a189c
Step 2/5 : LABEL author="MJ Santos"
 ---> Using cache
 ---> 7a38e4a3eeb6
Step 3/5 : RUN apt-get update
 ---> Using cache
 ---> eb7b2b769683
Step 4/5 : RUN apt-get install -y iputils-ping
 ---> Using cache
 ---> 090dae1d02a6
Step 5/5 : RUN apt-get clean   && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages*   && t
runcate -s 0 /var/log/*log
 ---> Running in 24750c73ba75
Removing intermediate container 24750c73ba75
 ---> 1b8a7fd37432
Successfully built 1b8a7fd37432
Successfully tagged itachity/ping:latest
[node3] (local) root@192.168.0.6 ~
$ docker images
REPOSITORY      TAG        IMAGE ID        CREATED         SIZE
itachity/ping   latest     1b8a7fd37432    6 seconds ago   170MB
ubuntu          16.04      065cf14a189c    4 days ago      135MB
```

```
 1 FROM ubuntu:16.04
 2 LABEL author="MJ Santos"
 3
 4 RUN apt-get update \
 5    && apt-get install -y iputils-ping \
 6    && apt-get clean \
 7    && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
 8    && truncate -s 0 /var/log/*log
```

```
[node3] (local) root@192.168.0.6 ~
$ vi Dockerfile
[node3] (local) root@192.168.0.6 ~
$ docker build -t 'itachity/ping' .
Sending build context to Docker daemon    47MB
Step 1/3 : FROM ubuntu:16.04
 ---> 065cf14a189c
Step 2/3 : LABEL author="MJ Santos"
 ---> Using cache
 ---> 7a38e4a3eeb6
Step 3/3 : RUN apt-get update    && apt-get install -y iputils-ping    && apt-get clean    && cd /var/lib/
apt/lists && rm -fr *Release* *Sources* *Packages*    && truncate -s 0 /var/log/*log
 ---> Running in a48ca8986342
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:4 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:5 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:6 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:11 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.4 MB in 3s (6383 kB/s)
Reading package lists...
Reading package lists...
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11
  libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4
  libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2
[93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2
 [136 kB]
```

```
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 k
B]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5~ubuntu16.04
.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3
[43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8 [5
48 kB]
Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl27 amd64 3.4.10-4ubun
tu1.8 [21.9 kB]
Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7
kB]
debconf: delaying package configuration, since apt-utils is not installed
Fetched 1307 kB in 0s (1769 kB/s)
Selecting previously unselected package libgmp10:amd64.
(Reading database ... 4785 files and directories currently installed.)
Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...
Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Selecting previously unselected package libnettle6:amd64.
Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libhogweed4:amd64.
Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...
Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Selecting previously unselected package libidn11:amd64.
Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...
Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...
Selecting previously unselected package libffi6:amd64.
Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...
Unpacking libffi6:amd64 (3.2.1-4) ...
Selecting previously unselected package libp11-kit0:amd64.
Preparing to unpack .../libp11-kit0_0.23.2-5~ubuntu16.04.2_amd64.deb ...
Unpacking libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...
Selecting previously unselected package libtasn1-6:amd64.
Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...
Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Selecting previously unselected package libgnutls30:amd64.
Preparing to unpack .../libgnutls30_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package libgnutls-openssl27:amd64.
Preparing to unpack .../libgnutls-openssl27_3.4.10-4ubuntu1.8_amd64.deb ...
Unpacking libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20121221-5ubuntu2_amd64.deb ...
Unpacking iputils-ping (3:20121221-5ubuntu2) ...
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...
Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...
Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...
Setting up libffi6:amd64 (3.2.1-4) ...
Setting up libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...
```

```
Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...
Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...
Setting up libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...
Setting up iputils-ping (3:20121221-5ubuntu2) ...
Setcap is not installed, falling back to setuid
Processing triggers for libc-bin (2.23-0ubuntu11.3) ...
Removing intermediate container a48ca8986342
 ---> 2a2a8013b463
Successfully built 2a2a8013b463
Successfully tagged itachity/ping:latest
[node3] (local) root@192.168.0.6 ~
$ docker images
REPOSITORY       TAG        IMAGE ID        CREATED         SIZE
itachity/ping    latest     2a2a8013b463    4 seconds ago   139MB
<none>           <none>     1b8a7fd37432    3 minutes ago   170MB
ubuntu           16.04      065cf14a189c    4 days ago      135MB
```

```
 1 FROM ubuntu:16.04
 2 LABEL author="MJ Santos"
 3
 4 ENV PING_TARGET "google.com"
 5
 6 RUN apt-get update \
 7    && apt-get install -y iputils-ping \
 8    && apt-get clean \
 9    && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
10    && truncate -s 0 /var/log/*log
11
12 CMD ["sh", "-c", "ping $PING_TARGET"]
```

```
[node3] (local) root@192.168.0.6 ~
$ docker run -it itachity/ping
PING google.com (142.250.65.78) 56(84) bytes of data.
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=1 ttl=113 time=1.35 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=2 ttl=113 time=1.26 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=3 ttl=113 time=1.66 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=4 ttl=113 time=1.40 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=5 ttl=113 time=2.21 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=6 ttl=113 time=1.37 ms
^C64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=7 ttl=113 time=1.39 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=8 ttl=113 time=1.15 ms
64 bytes from iad23s91-in-f14.1e100.net (142.250.65.78): icmp_seq=9 ttl=113 time=1.33 ms
^C
--- google.com ping statistics ---
9 packets transmitted, 9 received, 0% packet loss, time 8009ms
rtt min/avg/max/mdev = 1.155/1.462/2.214/0.296 ms
```